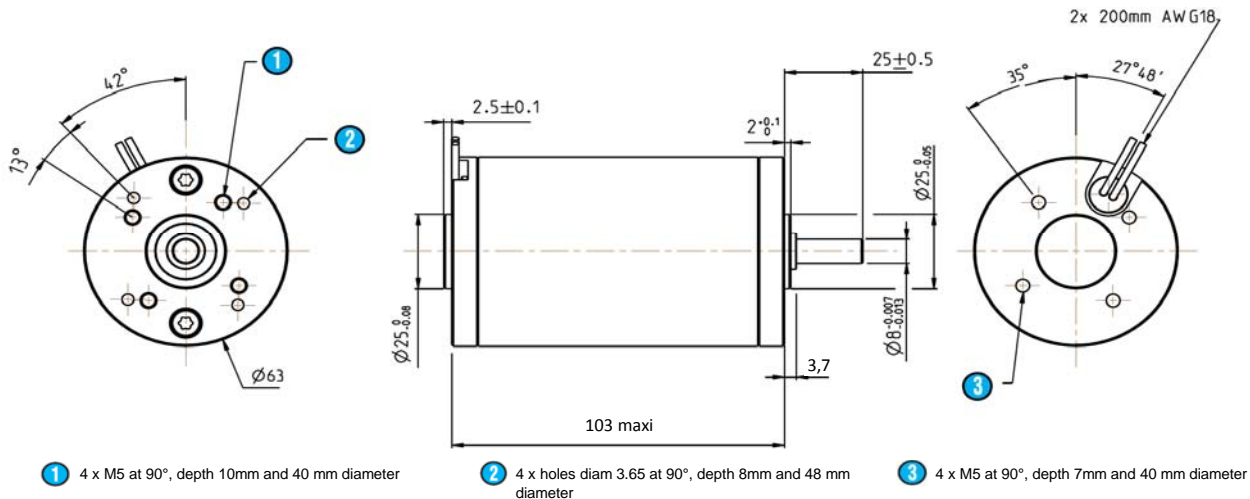


# Dc mind Brush motor Data sheet

## 89 830 011

### Series

# 89 830



## General characteristics

Motor characteristics at (1)		12 Vdc	
<b>At no load - A</b>			
Speed	rpm	3 830	+10%
Current	A	0,52	
EMC (55022)	class	B	
Life (2)	h	20 000	
<b>At max efficiency - B</b>			
Speed	rpm	3 340	+10%
Torque (4)	mNm	90	
Power output	W	31,479	
Current	A	3,5	
Efficiency	%	75	
EMC (55022)	class	B	
Life (2)	h	10 000	
<b>At nominal load - C</b>			
Speed	rpm	2 850	+10%
Torque (4)	mNm	180	
Power output	W	54	
Current	A	6,5	
Efficiency	%	69	
EMC (55022)	class	B	
Life (2)	h	5 000	
<b>Others</b>			
Starting torque	mNm	703	
Starting current	A	24,0	
Max. output power	W	70	
<b>Motor parameters (1)</b>			
Allowed speed	rpm	10 000	max
Rated torque	mNm	180	
Electrical time constant	ms	0,8	
Mechanical time constant	ms	21	
Factor torque / speed	mNm/rpm	0,18367	
Dry friction	mNm	7	
Viscous friction	mNm/krpm	1,5	
Rotor inertia	gcm <sup>2</sup>	380	
Thermal Resistance	°/W	4	
Stator poles		2	
Collector blades		12	
Cogging torque	mNm	9	
Weight (g)	g	1 200	
Noise level	dBA	35	

Winding parameters (1)			
Torque constant	mNm/A	30,1	+10%
Constant electromotive force	Volts/(rad/s)	0,030	+10%
	V / Krpm	3,15	+10%
Resistance	Ohms	0,5	+10%
Inductance	mH	0,38	
Start voltage	Volts	0,6	
Current demagnetization	(magnets at 150 ° C)	A	120

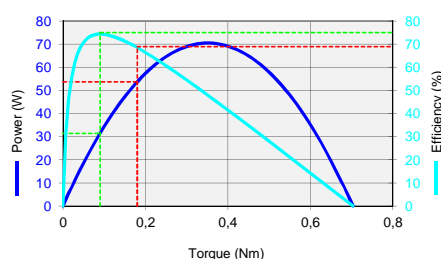
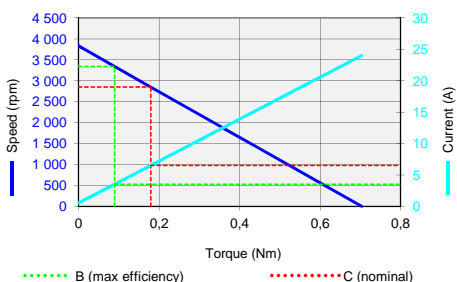
Generic parameters			
Motor for direct current supply			✓
Output shaft with ball bearings			✓
Max. Radial force (20mm from front face)	N		150
Max. axial force(5)	N		100
Temperature range	CEI60068-2-1/2	°C	-30 / 70
Storage temperature		°C	-40 / 100
Dielectric (1min 2mA 50Hz)	CEI60335	Vdc	500
Motor insulation	CEI60085	class	E (120°C)
Enameled wire insulation		class	F (155°C)
Salt spray	CEI60068-2-58	severity	2
Degree of protection	CEI60529	IP	65
<b>EMC</b>			
Electrostatic Discharge	CEI61000-4-2	level	3
Electrical fast transient / burst test	CEI61000-4-4	level	3
Surge test	CEI61000-4-5	level	2
Radiated emission		class	B

Approvals		
Designed in accordance with UL		1004
ROHS	2002/95/CE	✓
EC		✓
Designed for medical machines using the standard		EN60601-1

Values without tolerances, are average production values.

(1) Cold motor, 20 ° C ambient temperature  
 (2) Continuous cycle, one direction  
 (3) Continuously rated torque, zero radial and axial loads  
 (4) Max torque for continuous operation at 20 ° C, decrease this value for higher ambient temperature  
 (5) Pinion or pulley fitting are done at the Crouzet factory, before final assembly.

## Curves



Performance / Motor curves (1)					
Voltage supply		Vdc			
		12			
		Output data			
		A	B	C	D
Speed	rpm	3 830	3 340	2 850	0
Torque (4)	mNm	0	90	180	703
Current	A	0,5	3,5	6,5	24,0
Power output	W	-	31	54	-
Efficiency	%	-	75	69	-

Specifications subject to change without notice. Updated february 29, 2012.